What is claimed is:

1. A magnetic recording head comprising:

a write pole having a pole tip adjacent to an air bearing surface;

a return pole;

a near field transducer positioned adjacent to the air bearing surface for producing near field radiation for heating a portion of a magnetic storage medium; and

wherein a thermal profile of the portion of the magnetic storage medium has a maximum gradient at a location subject to a magnetic write field produced by the write pole.

2. The magnetic recording head of claim 1, wherein the near field transducer comprises one of: a metallic pin and a ridge waveguide.

3. The magnetic recording head of claim 1, further comprising a waveguide for coupling an electromagnetic wave to the near field transducer; and

wherein the near field transducer comprises a metallic pin positioned at a focal point of the waveguide.

4. The magnetic recording head of claim 3, further comprising means for coupling an electromagnetic wave to the waveguide.

5. The magnetic recording head of claim 4, wherein the means for coupling an electromagnetic wave to the waveguide comprises first and second gratings.

6. The magnetic recording head of claim 1, wherein the near field transducer comprises a metallic pin, and the magnetic recording head further comprises means for electrically insulating the metallic pin from the write pole.

7. The magnetic recording head of claim 6, wherein the means for electrically insulating the metallic pin from the write pole comprises a layer of insulation between the pin and the write pole.

8. The magnetic recording head of claim 1, wherein the thermal profile produced in a magnetic storage medium by the near field radiation has a maximum gradient below an edge of the write pole.

9. The magnetic recording head of claim 1, wherein the heated portion of the magnetic storage medium is between the write pole and the return pole.

10. A disc drive comprising:

means for rotating a storage medium; and

means for positioning a recording head adjacent to a surface of the storage medium;

wherein the recording head includes a write pole having a pole tip adjacent to an air bearing surface, a return pole, a near field transducer positioned adjacent to the air bearing surface for producing near field radiation for heating a portion of a magnetic storage medium, wherein a thermal profile of the portion of the magnetic storage medium has a maximum gradient at a location subject to a magnetic write field produced by the write pole.

11. The disc drive of claim 10, wherein the near field transducer comprises one of: a metallic pin and a ridge waveguide.

12. The disc drive of claim 10, further comprising a waveguide for coupling an electromagnetic wave to the near field transducer; and

wherein the near field transducer comprises a metallic pin positioned at a focal point of the waveguide.

13. The disc drive of claim 12, further comprising means for coupling an electromagnetic wave to the waveguide.

14. The disc drive of claim 13, wherein the means for coupling an electromagnetic wave to the waveguide comprises first and second gratings.

15. The disc drive of claim 10, wherein the near field transducer comprises a metallic pin, and the disc drive further comprises means for electrically insulating the metallic pin from the write pole.

16. The disc drive of claim 15, wherein the means for electrically insulating the metallic pin from the write pole comprises a layer of insulation between the pin and the write pole.

17. The disc drive of claim 10, wherein the thermal profile produced in a magnetic storage medium by the near field radiation has a maximum gradient below an edge of the write pole.

18. The disc drive of claim 10, wherein the heated portion of the magnetic storage medium is between the write pole and the return pole.

19. A method of magnetic recording comprising:

positioning an air bearing surface of a magnetic recording head adjacent to a magnetic storage medium, wherein the recording head includes a write pole having a pole tip adjacent to an air bearing surface, a return pole, a near field transducer positioned adjacent to the air bearing surface;

using near field radiation produced at the near field transducer to heat a portion of the magnetic storage medium, wherein a thermal profile of the portion of the magnetic storage medium has a maximum gradient at a location subject to a magnetic write field produced by the write pole; and

using the write field produced by the write pole to affect the magnetization of the portion of the magnetic storage medium.

20. The method of claim 19, wherein the thermal profile produced in the magnetic storage medium by the near field radiation has a maximum gradient below an edge of the write pole.